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EXAMINER	
KO, STEPHEN K	

ART UNIT	PAPER NUMBER
4151	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/529,734	PARK, SEOK KYU	
	Examiner	Art Unit	
	STEPHEN KO	4151	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *30 March 2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: "a bottom of the **inner** tub 4" is apparently should be written as "a bottom of the **outer** tub 4" (P.6, L.25).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 2, 6, and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Regarding claim 2, it is unclear whether it means fixing an amount of first time washing water, and an amount of second time washing water, which are both greater than the first washing water, or fixing an amount of first time washing water, and an amount of second time washing water, which the second time washing water is greater than the first washing water (Claim 2, P.14, L.11-14). It is assumed to mean fixing an amount of first time washing water, and an amount of second time washing water, which the second time washing water is greater than the first washing water for examination purpose.

5. Regarding claims 6 and 12, it is unclear on what it means by "turning on/off power supplied to the motor for a preset time period' (Claim 6, P.15, L.9-10; Claim 12,

P.17, L.4-5). It is assumed to mean "supplying power to the motor for a preset time period" for examination purpose.

Clarification is required.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. Claims 1-2, 5, and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joo et al (US 5,520,025) in view of Lyu et al (US 6,351,974).

Joo et al teach a method for washing laundry in a washing machine comprising the step of introducing a first amount of water, detergent and second amount of water, which depends on the amount of a washing object (read as predetermined amounts of washing water and detergent according to an amount of the laundry, col.3, L.8-16; col.5, L.10-11; col.5, L.59-61), to a washing tank for holding the washing object (read as laundry, col.3, L.17); rotating a rotary blade (read as pulsator, col.3, L.20-21) in the

washing tank (col.3, L.49-50) by a motor to generate a water stream suitable for washing the laundry (read as predetermined speed, col.6, L.54-55).

Joo et al teach the step of supplying washing water and detergent to a washing tank, but remains silent on washing tank having an outer tub and an inner tub inside the outer tub.

Lyu et al teach a step of supplying washing water and detergent to a washing machine having a washing tank comprising an outer tub (Fig.1, #2, col.1, L.25) and an inner tub in the outer tub (col.1, L.56-54).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the washing tank of Joo et al with inner tub and outer tub and to supply water and detergent as mentioned in Lyu et al to increase the washing efficiency in the teaching of Lyu et al.

Joo et al do not teach a method for washing laundry in a washing machine comprising the step of rotating the inner tub at predetermined speed by a motor for washing laundry.

Lyu et al also teach a method for washing laundry in a washing machine comprising the step of rotating the inner tub at high speed (read as predetermined speed, col.5, L.65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of Joo et al by adding a step of rotating the inner tub at high speed as mentioned in Lyu et al to obtain penetration washing (Lyu et al, col.6, L.4-5) generated by centrifugal force to wash the laundry by a centrifugal force.

For claim 2, note that the first amount of washing water is less than the amount of washing water (read as second time washing water, Joo et al, col.5, L.50-53) suitable for performing the washing step of the washing object (read as fixing an amount of a first time washing water and an amount of second time washing water, col.5, L.50-53). Also note that Joo et al teach a step of introducing the first amount of water into the washing tank (read as supplying the washing water to the inner tub as much as the amount of the first time washing water, Joo et al, col.3, L.10)

Regarding claim 5, Joo et al do not teach a method for washing laundry in a washing machine comprising the step of rotating the inner tub and the pulsator in one direction; stopping the inner tub and the pulsator; and rotating the inner tub and the pulsator in an opposite direction.

Lyn et al teach a method for washing laundry in a washing machine comprising the step of; repeatedly rotating the inner tub and the pulsator in regular and reverse rotations during a penetration washing (Col.7, L.1-2). Note that the inner tub and the pulsator have to stop for certain amount of time when there is a change of direction of rotations. Also note that the pulsator is formed as a unit with the inner tub, so the pulsator stops and rotates whenever the inner tub stops and rotates (Col.5, L.33-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the washing method of Joo et al as mentioned in Lyn et al to obtain improvement in washing efficiency.

Regarding claim 7, Joo et al do not teach a method for washing laundry in a washing machine comprising the step of the washing water penetrating the laundry by a

centrifugal force generated by rotation of the inner tub and the pulsator; and the washing water rising along an inside wall of the outer tub, and introduced into the inner tub from a top of the inner tub.

Lyn et al teach a method for washing laundry in a washing machine comprising the step of; the washing water penetrating through between textile fabrics of laundry by a centrifugal force generated by the high speed rotation of the pulsator and the inner tub(col.5, L.65-67 and col.6, L.3-5); the washing water pumped upward along a space between the inner tub and the outer tub by centrifugal forces until the washing water hits the tub cover where the washing water introduced into the inner tub from the top of the inner tub again (Fig.3A, col.6, L.9-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the washing method of Joo et al as mentioned as Lyn et al to obtain improvement in washing efficiency.

Regarding claim 8, Joo et al do not teach a method for washing laundry in a washing machine comprising the step of the washing water penetrating the laundry pushed onto an inside wall of the inner tub by a centrifugal force generated by rotation of the inner tub and the pulsator; and stopping the inner tub and the pulsator, to let the laundry fall down onto the pulsator.

Lyn et al teach a method for washing laundry in a washing machine comprising the step of; the pulsator and the inner tub rotated at a high speed such that the laundry is pushed to the inside wall of the inner tub by rotation of the inner tub and the pulsator (col.6, L.59-61); and stopping the rotation of the inner tub and the pulsator such that the

laundry is gathered to a central portion of the inner tub to hit with the pulsator (col.6, L.60-64). Note that the pulsator is formed as a unit with the inner tub, so the pulsator stops whenever the inner tub stops (Col.5, L.33-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the washing method of Joo et al as mentioned as Lyn et al in order to let the laundry to hit among the laundry or with the pulsator to improve washing efficiency.

For claim 9, note that the laundry is washed by rotating the rotary blade (read as pulsator, col.3, L.20).

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joo et al (US 5,520,025) in view of Lyu et al (US 6,351,974) in further view of Park (WO 03/080916).

Joo et al teach the washing water and the detergent mixed by driving the rotatary blade (read as pulsator, col.3, L.11-14) between the step of supplying washing water and detergent (col.3, L.11-14) and before the step of washing the washing object (read as laundry, col.3, L.15-18)

Lyn et al and Joo et al do not teach the mixing of the supplied washing water and the detergent with the laundry.

Park teaches a method for washing laundry in a washing machine comprising the step of soaking the supplied washing water and the detergent with the laundry (P.12, L.4-5; P.12, L.14-16).

It would have been obvious to ordinary skill in the art at the time the invention was made to modify the method of Joo et al and Lyn et al to mix the supplied washing water and the detergent with the laundry as mentioned in Park such that the laundry can absorb the detergent and the washing water evenly to enhance the ability of the detergent.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joo et al (US 5,520,025) in view of Lyu et al (US 6,351,974) in further view of Park (WO 03/080916) and Imai (US 6,257,027).

Joo et al, Park and Lyu et al do not teach the pulsator to repeat one or the other direction rotation alternately for predetermined number of times.

Imai teaches a method for washing laundry in washing machine comprising the step of actuating a washing motor which is connected to the pulsator (abstract), such that the motor is rotated repeatedly in opposite directions alternately (read as repeats one or the other direction rotation alternately, col.5, L.43-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the method of rotating the rotary blade for mixing washing water and detergent with laundry of Joo et al, Park and Lyu et al as mentioned in Imai such that the detergent is well dissolved in or mixed with the washing water and the laundry (col.5, L.45-46).

11. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joo et al (US 5,520,025) in view of Lyu et al (US 6,351,974) in further view of Sonoda et al (US 6,826,932).

Both Joo et al and Lyu et al do not teach a method of stopping the inner tub and the pulsator includes the step of supplying power to the motor for a preset time period to rotate the motor in a rotation direction opposite to the rotation direction of the motor in the step of rotating the inner tub and the pulsator in one direction.

Sonoda et al teach a method of stopping a motor comprising a step of rotating the motor in a direction opposite to the direction of the rotation which the motor is in rotation (Col.5, L.19-21). Note that power has to be supplied to the motor in order to actuate motor.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the stopping the rotation of the motor of Joo et al and Lyu et al as mentioned in Sonoda et al to shorten a stoppage time for the inner tub and the pulsator.

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joo et al (US 5,520,025) in view of Lyu et al (US 6,351,974) in further view of JP 2003-10587.

Both Joo et al and Lyu et al do not teach a method for washing laundry in a washing machine wherein the step of rotating the pulsator includes the step of rotating the inner tub having no rotation force of the motor transmitted thereto together with the rotation of the pulsator in a direction opposite to the rotation direction of the pulsator by a principle of action-reaction with respect to the rotation of the pulsator.

JP 2003-10587 teaches a method for washing laundry in a washing machine wherein the step of rotating the pulsator includes the step of rotatively driving the agitation blade (read as pulsator, abstract) in such a manner that the tub (read as inner

tub, abstract) is made free to rotate so that a reaction force reverse to the driving force of the agitation blade (read as pulsator, abstract; read as reaction force, abstract) is applied to spinning tub (read as inner tub, abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the step of rotating the pulsator of Joo et al and Lyu et al as mentioned in JP 2003-10587 to reduce damages to clothes and entanglement thereof with necessary washing force maintained (JP 2003-10587, abstract).

13. Claims 11, 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Joo et al (US 5,520,025) in view of Lyu et al (US 6,351,974) in further view of Park (WO 03/080916).

Joo et al and Lyu et al teach a method for washing laundry in a washing machine cited above.

Joo et al teach the washing water and the detergent mixed by driving the rotatary blade (read as pulsator, col.3, L.11-14) between the step of supplying washing water and detergent (col.3, L.11-14) and before the step of washing the washing object (read as laundry, col.3, L.15-18)

Lyn et al and Joo et al do not teach the mixing of the supplied washing water and the detergent with the laundry.

Park teaches a method for washing laundry in a washing machine comprising the step of soaking the supplied washing water and the detergent with the laundry (P.12, L.4-5; P.12, L.14-16).

It would have been obvious to ordinary skill in the art at the time the invention was made to modify the method of Joo et al and Lyn et al to mix the supplied washing water and the detergent with the laundry as mentioned in Park such that the laundry can absorb the detergent and the washing water evenly to enhance the ability of the detergent.

Joo et al and Park do not teach a method for washing laundry in a washing machine comprising the step of rotating the inner tub and the pulsator in one direction; stopping the inner tub and the pulsator; and rotating the inner tub and the pulsator in an opposite direction.

Lyn et al teach a method for washing laundry in a washing machine comprising the step of repeatedly rotating the inner tub and the pulsator in regular and reverse rotations during a penetration washing (Col.7, L.1-2). Note that the inner tub and the pulsator have to stop for certain amount of time when there is a change of direction of rotations. Also note that the pulsator is formed as a unit with the inner tub, so the pulsator stops and rotates whenever the inner tub stops and rotates (Col.5, L.33-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the washing method of Joo et al and Park as mentioned in Lyn et al to obtain improvement in washing efficiency.

Regarding claim 13, Joo et al and Park do not teach a method for washing laundry in a washing machine comprising the step of the washing water penetrating the laundry by a centrifugal force generated by rotation of the inner tub and the pulsator;

and the washing water rising along an inside wall of the outer tub, and introduced into the inner tub from a top of the inner tub before or after the step of stopping the inner tub.

Lyn et al teach a method for washing laundry in a washing machine called penetration washing (col.6, L.4-5) comprising the step of; the washing water penetrating through between textile fabrics of laundry by a centrifugal force generated by the high speed rotation of the pulsator and the inner tub (col.5, L.65-67 and col.6, L.3-5), the washing water pumped upward along a space between the inner tub and the outer tub by centrifugal forces until the washing water hits the tub cover where the washing water introduced into the inner tub from the top of the inner tub again (Fig.3A, col.6, L.9-11). The penetration washing is preformed repeatedly in regular and reverse rotation (read as before or after the step of stopping the inner tub and pulsator, Col.7, L.1-2). Also note that the pulsator is formed as a unit with the inner tub, so pulsator stops whenever the inner tub stops (Col.5, L.33-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the washing method of Joo et al and Park as mentioned as Lyn et al to obtain improvement in washing efficiency.

Regarding claim 14, Joo et al and Park do not teach a method for washing laundry in a washing machine comprising the step of the washing water penetrating the laundry pushed onto an inside wall of the inner tub by a centrifugal force generated by rotation of the inner tub and the pulsator; and stopping the inner tub and the pulsator, to let the laundry fall down onto the pulsator before or after the step of stopping the inner tub.

Lyn et al teach a method for washing laundry in a washing machine called restoration circulation (col.6, L.56-58) comprising the step of the pulsator and the inner tub is rotated at a high speed such that the laundry is pushed to the inside wall of the inner tub by rotation of the inner tub and the pulsator (col.6, L.59-61); and stopping the rotation of the inner tub and the pulsator such that the laundry is gathered to a central portion of the inner tub to hit with the pulsator (col.6, L.60-64). Note that Restoration circulation washing is preformed repeatedly when the direction of rotation is changed between regular to reverse rotation (read as before or after the step of stopping the inner tub and pulsator, Col.7, L.1-4).Also note that the pulsator is formed as a unit with the inner tub, so the pulsator stops whenever the inner tub stops (Col.5, L.33-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the washing method of Joo et al and Park as mentioned as Lyn et al in order to let the laundry to hit among the laundry or with the pulsator to improve washing efficiency.

Regarding claim 15, Joo et al and Park do not teach a method for washing laundry in a washing machine comprising the step of washing the laundry, one or the other direction rotation of the inner tub and the pulsator are repeated for a predetermined number of times.

Lyn et al teach a method for washing laundry in a washing machine called penetration washing comprising the pulsator and the inner tub is rotated at high speed (Col.5, L.65-66). Note that the penetration washing is preformed repeatedly in regular and reverse rotation (Col.7, L.1-2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the washing method of Joo et al and Park by adding the penetration washing method as mentioned in Lyn et al to obtain improvement in washing efficiency.

Regarding claim 16, note that washing the laundry is performed by rotating the rotary blade (Joo et al, read as pulsator, col.3, L.20).

Joo et al, Park and Lyn et al both do not teach a method for washing laundry in the washing machine wherein the step of rotating the pulsator to wash the laundry after the penetration washing.

Since the criticality of recited steps is not shown on this record. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to rearranging steps to provide higher cleaning efficiency as rearranging the steps does not render new and unexpected result, consult In re Burnhans, 154F.2d690, 69 USPQ 330 (CCPA 1946).

14. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joo et al (US 5,520,025) in view of Lyu et al (US 6,351,974) in further view of Park (WO 03/080816) and Sonoda et al (US 6,826,932).

Joo et al, Park and Lyu et al do not teach a method of stopping the inner tub and the pulsator includes the step of supplying power to the motor for a preset time period to rotate the motor in a rotation direction opposite to the rotation direction of the motor in the step of rotating the inner tub and the pulsator in one direction.

Sonoda et al teach a method of stopping a motor comprising a step of rotating the motor in a direction opposite to the direction of the rotation which the motor is in rotation (Col.5, L.19-21). Note that power has to be supplied to the motor in order to actuate motor.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the stopping the rotation of the motor of Joo et al, Park and Lyu et al as mentioned in Sonoda et al to shorten a stoppage time for the inner tub and the pulsator.

15. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Joo et al (US 5,520,025) in view of Lyu et al (US 6,351,974) in further view of Park (WO 03/080816) and JP 2003-10587.

Joo et al, Park and Lyu et al do not teach a method for washing laundry in a washing machine wherein the step of rotating the pulsator includes the step of rotating the inner tub having no rotation force of the motor transmitted thereto together with the rotation of the pulsator in a direction opposite to the rotation direction of the pulsator by a principle of action-reaction with respect to the rotation of the pulsator.

16. JP 2003-10587 teaches a method for washing laundry in a washing machine wherein the step of rotating the pulsator includes the step of rotatively driving the agitation blade (read as pulsator, abstract) in such a manner that the tub (read as inner tub, abstract) is made free to rotate so that a reaction force reverse to the driving force of the agitation blade (read as pulsator, abstract; read as reaction force, abstract) is applied to spinning tub (read as inner tub, abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the step of rotating the pulsator of Joo et al, Park and Lyu et al as mentioned in JP 2003-10587 to reduce damages to clothes and entanglement thereof with necessary washing force maintained (JP 2003-10587, abstract).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN KO whose telephone number is (571)270-3726. The examiner can normally be reached on Monday to Thursday, 7:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Kornakov can be reached on 271-272-1303. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SK
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